## 题目一：

该题考查点：属性和方法的使用！

定义一个空调类和对应的测试类

**要求：**

1. 空调有品牌和价格两个属性，并且将属性私有化，提供公有的getXxx与setXxx方法对属性赋值和取值；
2. 提供一个无返回值的无参数的开机的方法，内容打印一句话：“空调开机了...”；
3. 提供一个无返回值的带1个int类型参数的定时关机的方法,(int类型的参数表示设定的分钟数)，内容打印一句话：“空调将在xxx分钟后自动关闭...”；
4. 在测试类中创建出空调对象，并给空调的品牌和价格赋任意值；
5. 使用空调对象获取空调的品牌和价格并打印到控制台上；
6. 使用空调对象调用开机方法；
7. 使用空调对象调用定时关机方法，并传递具体数据值，在控制台上可以看到的效果为：空调将在xxx分钟后自动关闭...

其中语句中的“xxx”是调用方法时传递的具体数据值；

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| import time class air\_conditioner:  \_\_brand=""  \_\_price=0.00  def setBrand(self,brand):  self.\_\_brand=brand   def getBrand(self):  return "您的空调品牌为：",self.\_\_brand   def setPrice(self,price):  if price>0:  self.\_\_price=price  else:  print("您输入的价格不正确！！")   def getPrice(self):  return "您的空调价格为：",self.\_\_price   def start(self):  print("空调开机了...")  for i in range(9):  print("\*")  time.sleep(2)  def close(self,Ctime):  cdtime=Ctime\*60  print("空调将在",cdtime,"小时后自动关闭...")  time.sleep(cdtime)  myair\_conditioner=air\_conditioner() myair\_conditioner.setBrand(input("请输入空调的品牌：")) myair\_conditioner.setPrice(float(input("请输入空调的价格："))) print(myair\_conditioner.getBrand()) print(myair\_conditioner.getPrice()) myair\_conditioner.start() myair\_conditioner.close(int(input("请输入多少小时后关机："))) |
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## 题目二：

该题考查点：self关键字的使用！

定义一个学生类和对应的测试类

**要求：**

1. 学生有姓名和年龄两个属性，并且将属性私有化，提供公有的getXxx与setXxx方法对属性赋值和取值；
2. 提供一个无返回值的无参数的自我介绍的方法，内容打印一句话：

“大家好，我叫xxx，今年xxx岁了！”

1. 提供一个返回值为String类型，参数为学生类型的比较年龄差值的方法，如果当前对象***的年龄比参数中的学生的年龄大***，则返回：“我比同桌大xxx岁！”；如果当前对象的年龄比参数中的学生的年龄小，则返回：“我比同桌小xxx岁！”；如果当前对象的年龄和参数中的学生的年龄一样大，则返回：“我和同桌一样大！”
2. 在测试类中分别创建你和你同桌两个人的对象，并分别给你和你同桌的姓名和年龄属性赋上对应的值；
3. 调用你自己的对象的自我介绍的方法，展示出你自己的姓名和年龄；
4. 用你自己的对象调用比较年龄差值的方法，把你同桌作为参数使用，并打印方法返回的字符串的内容；

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| class student:  \_\_name=""  \_\_age=0  def setname(self,name):  self.\_\_name=name  def getname(self):  return self.\_\_name  def setage(self,age):  if age>0 and age<120:  self.\_\_age=age  else:  print("年龄错误！！！")  def getage(self):  return self.\_\_age  def dointroduction(self):  print("大家好！我叫",self.\_\_name,"，今年",self.\_\_age,"岁了！")  def Compare\_age\_difference(self,age):  if self.\_\_age>age:  dage=self.\_\_age-age  print("我比同桌大",dage,"岁！")  elif self.\_\_age<age:  dage=age-self.\_\_age  print("我比同桌小",dage,"岁！")  elif self.\_\_age==age:  print("我和同桌一样大！") my=student() tz=student() my.setname(input("请输入您的名字：")) my.setage(int(input("请输入您的年龄："))) tz.setname(input("请输入同桌的名字：")) tz.setage(int(input("请输入同桌的年龄："))) my.dointroduction() my.Compare\_age\_difference(tz.getage()) |

## 题目三：打电话业务逻辑

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| 人类：  属性:  姓名，性别，年龄，所拥有的手机剩余话费，手机品牌，手机电池容量，手机屏幕大小，手机最大待机时长，所拥有的积分。  功能：  发短信（要求参数传入短信内容）。  打电话（要求传入要打的电话号码和要打的时间长度。程序里判断号码是否为空或者本人的话费是否小于1元，若为空或者小于1元则报相对应的错误信息，否则的话拨通。结束后，按照时间长度扣费并返回扣费（0~10分钟：1元/钟、15个积分/钟，10~20分钟：0.8元/钟、39个积分/钟，其他：0.65元/钟、48个积分/钟）） |
| class man:  \_\_name=""  \_\_sex=""  \_\_age=0  \_\_phone\_balance=0.0  \_\_phonebrand=""  \_\_Cell\_phone\_capacity=0.0  \_\_Mobile\_phone\_screen\_size=0.0  \_\_phone\_standby\_time=0.0  \_\_integration=0   def setName(self,name):  self.\_\_name=name  def getName(self):  return self.\_\_name  def setSex(self,sex):  if sex=="男" and sex=="女":  self.\_\_sex=sex  else:  print("性别有误！！")  def getSex(self):  return self.\_\_sex  def setAge(self,age):  if age>0 and age<120:  self.\_\_age=age  else:  print("年龄有误！")  def getAge(self):  return self.\_\_age  def setPhone\_balance(self,phone\_balance):  if phone\_balance>0:  self.\_\_phone\_balance=phone\_balance  else:  print("话费不足！")  def getPhone\_balance(self):  return self.\_\_phone\_balance  def setPhonebrand(self,phonebrand):  self.\_\_phonebrand=phonebrand  def getPhonebrand(self):  return self.\_\_phonebrand  def setCell\_phone\_capacity(self,Cell\_phone\_capacity):  if Cell\_phone\_capacity>0:  self.\_\_Cell\_phone\_capacity=Cell\_phone\_capacity  else:  print("手机电池容量有误！！")  def getCell\_phone\_capacity(self):  return self.\_\_Cell\_phone\_capacity  def setMobile\_phone\_screen\_size(self,Mobile\_phone\_screen\_size):  if Mobile\_phone\_screen\_size>0:  self.\_\_Mobile\_phone\_screen\_size=Mobile\_phone\_screen\_size  else:  print("手机屏幕尺寸有误！！")  def getMobile\_phone\_screen\_size(self):  return self.\_\_Mobile\_phone\_screen\_size  def setPhone\_standby\_time(self,phone\_standby\_time):  if phone\_standby\_time>0:  self.\_\_phone\_standby\_time=phone\_standby\_time  else:  print("手机最大待机时长有误！！！")  def getPhone\_standby\_time(self):  return self.\_\_phone\_standby\_time  def setintegration(self,integration):  if integration>0:  self.\_\_integration=integration  else:  print("所拥有的积分错误！！！")  def getintegration(self):  return self.\_\_integration    def send\_short\_messages(self,message):  if message!="":  print("已发送消息：",message)  else:  print("请输入发送内容！！")  def calling(self,number,time):  if number!="":  if self.\_\_phone\_balance>1:  print("电话已拨通")  print("电话已拨打",time,"分钟")  if time>0 and time<10:  self.\_\_phone\_balance-=time\*1  self.\_\_integration+=time\*15  elif time>10 and time<20:  self.\_\_phone\_balance-=time\*0.8  self.\_\_integration+=time\*39  else:  self.\_\_phone\_balance -= time \* 0.65  self.\_\_integration += time \* 48  else:  print("您的话费不足！！")  else:  print("您拨打的电话号码不存在！！") |

## 题目四：需求编程

* + 1. 定义了一个学生类：属性:学号，姓名，年龄，性别，身高，体重，成绩，家庭地址，电话号码。行为：学习（要求参数传入学习的时间），玩游戏（要求参数传入游戏名），编程（要求参数传入写代码的行数），数的求和（要求参数用变长参数来做，返回求和结果）

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| class student:  \_\_student\_number=0  \_\_student\_name=""  \_\_age=0  \_\_sex=""  \_\_high=0.0  \_\_weight=0.0  \_\_achievement=0.0  \_\_dress=""  \_\_number=""  def setstudent\_number(self,student\_number):  self.\_\_student\_number=student\_number  def getstudent\_number(self):  return self.\_\_student\_number  def setstudent\_name(self,student\_name):  self.\_\_student\_name=student\_name  def getstudent\_name(self):  return self.\_\_student\_name  def setage(self,age):  if age>0 and age<120:  self.\_\_age=age  else:  print("年龄有误！")  def getage(self):  return self.\_\_age  def setsex(self,sex):  if sex=="男" and sex=="女":  self.\_\_sex=sex  else:  print("性别有误！！")  def getsex(self):  return self.\_\_sex  def sethigh(self,high):  if high>0 and high<370:  self.\_\_high=high  else:  print("身高有误！！")  def gethigh(self):  return self.\_\_high  def setweight(self,weight):  if weight>0 and weight<500:  self.\_\_weight=weight  else:  print("体重有误！！")  def getweight(self):  return self.\_\_weight  def setachievement(self,achievement):  if achievement>=0:  self.\_\_achievement=achievement  else:  print("成绩有误！！")  def getachievement(self):  return self.\_\_achievement  def setdress(self,dress):  self.\_\_dress=dress  def getdress(self):  return self.\_\_dress  def setnumber(self,number):  self.\_\_number=number  def getnumber(self):  return self.\_\_number  def studying(self,study\_time):  print(self.\_\_student\_name,"已经学习了",study\_time,"小时")  def playgame(self,gamename):  print(self.\_\_student\_name,"正在玩",gamename)  def bc(self,hs):  print(self.\_\_student\_name,"已经写了",hs,"行代码")  def qh(self,a1,a2):  a3=a1+a2  return a3 |

* + 1. 车类：属性：车型号，车轮数，车身颜色，车重量，油箱存储大小 。功能：跑（要求参数传入车的具体功能，比如越野，赛车）

创建：法拉利，宝马，铃木，五菱，拖拉机对象

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| class car:  \_\_ctype=""  \_\_clz=0  \_\_ccolor=""  \_\_chigh=0.0  \_\_cyx=0.0  def setctype(self,ctype):  self.\_\_ctype=ctype  def getctype(self):  return self.\_\_ctype  def setCLZ(self,CLZS):  self.\_\_clz=CLZS  def getclz(self):  return self.\_\_clz  def setccolor(self,color):  self.\_\_ccolor=color  def getccolor(self):  return self.\_\_ccolor  def setchigh(self,high):  self.\_\_chigh=high  def getchigh(self):  return self.\_\_chigh  def setcyx(self,cyx):  self.\_\_cyx=cyx  def getcyx(self):  return self.\_\_cyx   def runing(self,czxh):  if czxh=="家用":  if self.\_\_ctype=="五菱" or self.\_\_ctype=="铃木":  print("车子型号为：",self.\_\_ctype, "的车子的",self.\_\_ccolor,czxh,self.\_\_clz,"轮",self.\_\_chigh,"重","车子油箱容量为",self.\_\_cyx,"的车子正在公路上跑！！")  elif self.\_\_ctype=="拖拉机":  print("车子型号为：", self.\_\_ctype, "的车子的",self.\_\_ccolor,czxh,self.\_\_clz,"轮",self.\_\_chigh,"重","车子油箱容量为",self.\_\_cyx,"的车子正在田野里跑！！！")  elif czxh=="越野":  print("车子型号为：",self.\_\_ctype, "的车子的",self.\_\_ccolor,czxh,self.\_\_clz,"轮",self.\_\_chigh,"重","车子油箱容量为",self.\_\_cyx,"的车子正在山地越野！！")  elif czxh=="赛车":  print("车子型号为：", self.\_\_ctype, "的车子的",self.\_\_ccolor,czxh,self.\_\_clz,"轮",self.\_\_chigh,"重","车子油箱容量为",self.\_\_cyx, "的车子正在车道赛车！！")  class Ferrari(car):  def run(self):  super().runing("赛车")  class Bwm(car):  def run(self):  super().runing("赛车") class lingmu(car):  def run(self):  super().runing("赛车") class wuling(car):  def run(self):  super().runing("家用") class tlj(car):  def run(self):  super().runing("家用") |

* + 1. 笔记本：属性：型号，待机时间，颜色，重量，cpu型号，内存大小，硬盘大小。 行为：打游戏（传入游戏的名称）,办公。

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| import time  class laptop:  \_\_screen\_size=0.0  \_\_price=0.00  \_\_cputype=""  \_\_memory\_size=0  \_\_standby\_time=0.0  def setScreen\_size(self,screen\_size):  if screen\_size<11.6 and screen\_size>11.0:  self.\_\_screen\_size=11  elif screen\_size<12.5 and screen\_size>12.0:  self.\_\_screen\_size=12  elif screen\_size<13.4 and screen\_size>13.0:  self.\_\_screen\_size=13  elif screen\_size<14.5 and screen\_size>14.0:  self.\_\_screen\_size=14  elif screen\_size<15.6 and screen\_size>15.0:  self.\_\_screen\_size=15  elif screen\_size<20 and screen\_size>17:  self.\_\_screen\_size=17  elif screen\_size<=20:  self.\_\_screen\_size=20  else:  print("您的电脑屏幕不正确！！！")  def getScreen\_size(self):  return self.\_\_screen\_size   def setPrice(self,price):  if price>0:  self.\_\_price=price  else:  print("您的电脑价格不正确！！！")   def getPrice(self):  return self.\_\_price   def setCputype(self,cputype):  if cputype=="奔腾双核":  self.\_\_cputype=cputype  elif cputype=="赛扬双核":  self.\_\_cputype=cputype  elif cputype=="酷睿i3":  self.\_\_cputype=cputype  elif cputype=="酷睿i5":  self.\_\_cputype=cputype  elif cputype == "酷睿i7处理器":  self.\_\_cputype = cputype  elif cputype == "A6处理器":  self.\_\_cputype = cputype  elif cputype == "A8处理器":  self.\_\_cputype = cputype  elif cputype == "A10处理器":  self.\_\_cputype = cputype  elif cputype == "AMD六核处理器":  self.\_\_cputype = cputype   else:  print("您输入的电脑cpu型号不正确！！！")   def getCputype(self):  return self.\_\_cputype    def setMemory\_size(self,memory\_size):  if memory\_size==2:  self.\_\_memory\_size=memory\_size  elif memory\_size==4:  self.\_\_memory\_size=memory\_size  elif memory\_size == 8:  self.\_\_memory\_size = memory\_size  else:  print("您输入的电脑内存不正确！！！")   def getMemory\_size(self):  return self.\_\_memory\_size   def setStandby\_time(self,standby\_time):  if standby\_time<3000 and standby\_time>0:  self.\_\_standby\_time=standby\_time  else:  print("您输入的待机时长不正确！！！")   def getStandby\_time(self):  return self.\_\_standby\_time   def type(self,content):  print("您打出了：",content)   def playGame(self,gamename,hour):  if hour>0:  if gamename=="4399" :  print("正在启动4399~请稍等...")  for i in range(8):  print("\*")  time.sleep(2)  print("启动完成")  print("正在玩游戏中！")  for y in range(8):  print("$")  time.sleep(1)  print("您已经玩",gamename,"玩了",hour,"小时")  elif gamename=="wegame":  print("正在启动wegame~请稍等...")  for i in range(8):  print("\*")  time.sleep(2)  print("启动完成")  print("正在玩游戏中！")  for y in range(8):  print("$")  time.sleep(1)  print("您已经玩", gamename, "玩了", hour,"小时")  else:  print("您没有下载",gamename,"该游戏")  def work(self,sq):  if sq=="word":  print("您正在打字！！！")  elif sq=="exlce":  print("您正在整理表格！！")  mylaptop=laptop() mylaptop.setScreen\_size(float(input("请输入您电脑的屏幕尺寸："))) mylaptop.setPrice(float(input("请输入您电脑的价格："))) mylaptop.setCputype(input("请输入您电脑的cpu型号：")) mylaptop.setMemory\_size(int(input("请输入您电脑的内存大小："))) mylaptop.setStandby\_time(float(input("请输入您电脑的待机时长："))) mylaptop.playGame(input("请输入您想玩的游戏："),int(input("请输入想玩的时长："))) mylaptop.work(input("请输入您想做的事情：")) |

* + 1. 猴子类：属性：类别，性别，身体颜色，体重。行为：造火（要求传入造火的材料：比如木棍还是石头），学习事物（要求参数传入学习的具体事物，可以不止学习一种事物）

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| class monkey:  \_\_type=""  \_\_sex=""  \_\_bodycolor=""  \_\_high=0.0  def settype(self,montype):  self.\_\_type=montype  def gettype(self):  return self.\_\_type  def setsex(self,sex):  if sex=="公" or sex=="母":  self.\_\_sex=sex  else:  print("您输入的性别有误！！！")  def getsex(self):  return self.\_\_sex  def setbodycolor(self,color):  self.\_\_bodycolor=color  def getbodycolor(self):  return self.\_\_bodycolor  def sethigh(self,high):  self.\_\_high=high  def gethigh(self):  return self.\_\_high  def fiery(self,article):  print(self.\_\_type,"的身上是",self.\_\_bodycolor,"颜色",self.\_\_sex,"的猴子正在用",article,"造火")  def gain\_knowledge(self,knowledge):  if knowledge=="书本":  print(self.\_\_type, "的身上是", self.\_\_bodycolor, "颜色", self.\_\_sex, "的猴子正在学习",knowledge, "上的知识")  elif knowledge=="电锯":  print(self.\_\_type, "的身上是", self.\_\_bodycolor, "颜色", self.\_\_sex, "的猴子正在学习使用", knowledge, "来工作")  elif knowledge=="电脑":  print(self.\_\_type, "的身上是", self.\_\_bodycolor, "颜色", self.\_\_sex, "的猴子正在学习使用", knowledge, "来打字")  m=monkey() m.setsex("公") m.sethigh(55) m.setbodycolor("黑") m.settype("非洲") m.fiery("石头") m.gain\_knowledge("电脑") |